

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

REGISTRATION NO. : 6,753,078 B2

DATED : June 22, 2004

INVENTOR(S) : Alexander Roesler; Yung Yip

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

**Column 6:**

Line 45, "lees" should read - - less - -.

Lines 66-67, "maturation" should read - - saturation- -.

**Column 7:**

Line 14, "then" should read - - than - -.

Line 19, "range 0.00001" should read - - range of 0.00001 - -.

**Column 8:**

Line 19, "fold" should read - - field - -.

MAILING ADDRESS OF SENDER:

PATENT NO. 6,753,078 B2

Eric Levinson  
Imation Corp. Legal Affairs  
P.O. Box 64898  
St. Paul, MN 55164-0898

OCT 06 2004

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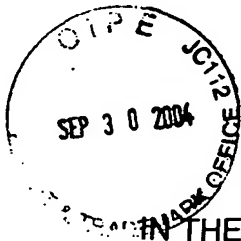
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PATENT  
Docket No. 10272US01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

ALEXANDER ROESLER and YUNG YIP

Patent No.: 6,753,078 B2

Issued: June 22, 2004

Serial No.: 10/003,219

For: RECORDING NOISE REDUCTION

CERTIFICATE OF  
CORRECTIONS BRANCH

REQUEST FOR CERTIFICATE OF CORRECTION UNDER 37 C.F.R. 1.322

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Certificate

OCT 05 2004

Dear Sir:

It is respectfully requested that a Certificate of Correction be issued in connection with the subject patent in accordance with the provisions of 37 C.F.R. 1.322 and Patent Office Notice dated January 24, 1975.

Because the listed errors first occurred in the printed patent, and thus are not due to Applicants' mistake, no fee is required in connection with this Certificate. For the PTO's convenience, enclosed is an Amendment, with claims as amended, submitted on December 1, 2003. After issuance, the original claims were renumbered from 1-24 to 1-23. Original Claims 7, 13, 15, 17, and 23 issued as Claims 7, 12, 14, 16, and 22. Applicants have circled the words that were misspelled in the issued patent.

Respectfully submitted,

Date

9/27/4

Eric D. Levinson

Registration No. 35,814

Imation Legal Affairs  
P.O. Box 64898  
St. Paul, Minnesota 55164-0898  
Telephone: (651) 704-3604  
Facsimile: (651) 704-5951

OCT 06 2004



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Alexander Roesler; Yung Yip

Serial No.: 10/003,219

Filed: October 30, 2001

Examiner: Leszek B. Kiliman

Group Art 1773

Unit:

Docket No.: 10272US01

Title: **RECORDING NOISE REDUCTION**

CERTIFICATE UNDER 37 CFR 1.8 I hereby certify that this correspondence is being transmitted via facsimile to the United States Patent and Trademark Office on 12/1, 2003.

By: 

Name: Eric D. Levinson

**AMENDMENT**

Mail Stop Non-Fee Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action mailed September 3, 2003, the period of response for which runs through December 3, 2003, please amend the application as follows.

**Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this paper.

**Remarks** begin on page 6 of this paper.

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

Claim 1 (Previously Presented): An apparatus comprising:

a magnetic recording head having a gap; and  
a magnetic recording medium having a recording layer and a permeable magnetic underlayer proximate to the recording layer, the recording layer having a thickness less than or equal to one-half the width of the gap.

Claim 2 (Original): The apparatus of claim 1, where the magnetic recording head creates a recording field, where the magnetic recording medium causes an increase in a perpendicular component of the recording field.

Claim 3 (Original): The apparatus of claim 1, wherein the permeable magnetic underlayer has a permeability of greater than 20.

Claim 4 (Original): The apparatus of claim 1, wherein the permeable magnetic underlayer has a coercivity in a range of 0.00001 Oe to 100 Oe.

Claim 5 (Original): The apparatus of claim 1, wherein the permeable magnetic underlayer and the recording layer have a saturation magnetization, and wherein the saturation magnetization of the permeable magnetic underlayer is less than or equal to that of the recording layer.

Claim 6 (Previously Presented): The apparatus of claim 1, further comprising a substrate proximate to the permeable magnetic underlayer.

Claim 7 (Original): The apparatus of claim 6, where the substrate, the permeable magnetic underlayer, and the recording layer have a thickness that is less than or equal to five micrometers.

Claim 8 (Currently amended): A magnetic recording medium comprising:

a recording layer;  
a substrate; and  
a permeable magnetic underlayer between the recording layer and the substrate,  
wherein the permeable magnetic underlayer alters a recording field passing through the recording layer; and  
wherein the permeable magnetic underlayer alters the recording field by generating an image recording field.

Claim 9 (Original): The medium of claim 8, wherein the permeable magnetic underlayer alters the recording field by increasing a perpendicular component of the recording field.

Claim 10 (Cancelled)

Claim 11 (Original): The medium of claim 8, wherein the permeable magnetic underlayer has a permeability of greater than 20.

Claim 12 (Original): The medium of claim 8, wherein the permeable magnetic underlayer has a coercivity in a range of 0.00001 Oe to 100 Oe.

Claim 13 (Original): The medium of claim 8, wherein the permeable magnetic underlayer and the recording layer have a saturation magnetization, and wherein the saturation magnetization of the permeable magnetic underlayer is less than or equal to that of the recording layer.

Claim 14 (Original): A magnetic recording medium comprising:  
a recording layer;

a permeable magnetic underlayer adjacent the magnetic recording layer; and  
a substrate,

wherein the recording layer and the permeable layer are positioned on the substrate, and  
the thickness of the recording layer is selected as a function of the width of a gap on a recording  
head.

Claim 15 (Original): The medium of claim 14, wherein the thickness of the recording layer is  
selected to be no greater than one half the width of the gap on the recording head.

Claim 16 (Original): The medium of claim 14, wherein the permeable magnetic underlayer has a  
permeability of greater than 20.

Claim 17 (Original): The medium of claim 14, wherein the permeable magnetic underlayer has a  
coercivity in a range of 0.00001 Oe to 100 Oe.

Claim 18 (Original): The medium of claim 14, wherein the permeable magnetic underlayer and  
the recording layer have a saturation magnetization, and wherein the saturation magnetization of  
the permeable magnetic underlayer is less than or equal to that of the recording layer.

Claim 19 (Original): The medium of claim 14, where the substrate, the permeable magnetic  
underlayer, and the recording layer have a thickness that is less than or equal to five micrometers.

Claim 20 (Original): A method comprising:

applying a recording layer to a permeable magnetic underlayer; and  
regulating the thickness of the recording layer as a function of the width of a gap on a  
recording head.

Claim 21 (Original): The method of claim 20, further comprising regulating the thickness of the  
recording layer to be no greater than one half the width of the gap on the recording head.

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Reply to Office Action of September 3, 2003

Claim 22 (Currently amended): A method comprising:

passing a recording field through a recording layer of a magnetic recording medium; and  
regulating the shape of the transition width of the recording field with a permeable  
magnetic underlayer.

Claim 23 (Original): The method of claim 22, further comprising regulating a perpendicular  
component of the recording field with the permeable magnetic underlayer.

Claim 24 (Original): The method of claim 23, further comprising increasing the perpendicular  
component of the recording field and decreasing a horizontal component.



**REMARKS**

This amendment is responsive to the Office Action dated September 3, 2003. Applicants have amended claims 8 and 22 and have canceled claim 10. Claims 1-9 and 11-24 are pending.

**Claim Rejections Under 35 U.S.C. § 102**

In the Office Action, the Examiner rejected claims 8-9, 11-13, and 22-24 under 35 U.S.C. § 102(b) as being anticipated by Akiyama (U.S. Pat. No. 5,815,342). The Examiner further rejected claims 8, 11, 12, 13, and 22 under 35 U.S.C. § 102(b) as being anticipated by Lal et al. (U.S. pat. No. 5,576,085).

Applicants assert that amendments to claims 8 and 22 put all pending claims in condition for allowance.

***Claims 8-9, and 11-13***

The Examiner objected to claim 10 as being dependent upon a rejected base claim. Claim 10 would be allowable, said the Examiner, if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants have amended independent claim 8 to recite the limitations of claim 10 and have cancelled claim 10. This is equivalent to rewriting claim 10 in independent form including all of the limitations of claim 8. Claim 8 is therefore in condition for allowance.

Claims 9 and 11-13 are dependent upon claim 8. Because claim 8 is in condition for allowance, claims 9 and 11-13 are in condition for allowance as well.

***Claims 22-24***

Applicants note that, in regard to claims 22-24, the Examiner's Office Action is terse and does not "present a full and reasoned explanation of [the] decision," as required by *In re Lee*, 61 USPQ2d 1430, 1432 (Fed. Cir. 2002). "This standard requires that the agency not only have reached a sound decision, but have articulated the reasons for that decision." *Id.* at 1433. In particular, the Examiner did not make any effort to demonstrate how the cited references anticipate Applicants' claims 22-24.

Although the Examiner's decision did not specifically describe how Akiyama and Lal et al. anticipate claims 22-24, Applicants have amended claim 22 in a way that clarifies claim 22. In particular, Applicants have amended claim 22 to recite "regulating the shape of the transition width of the recording field." With this clarification, Akiyama and Lal et al. are clearly distinguishable from Applicants' claimed invention.

As set forth in Applicants' disclosure, e.g., page 8, lines 1-3 and 23-26, Applicants' claimed method affects transition width broadening. As described in Applicants' disclosure, Applicants' claimed method affects the shape of the recording field by affecting the field gradient. As noted on page 7, lines 2-4 and 11-12, the gradient of a conventional field broadens as the field penetrates the medium. By application of the method recited in claim 22, as amended, transition width broadening is reduced, as noted on page 8, lines 1-3 of Applicants' specification.

Neither Akiyama nor Lal et al. teaches or suggests regulating the shape of a transition width of a recording field with a permeable magnetic underlayer, as recited in claim 22, as amended. Claims 23 and 24 depend upon claim 22. Applicants submit that the amendment to claim 22 places claims 22-24 in condition for allowance.

#### **Allowed Claims**

The Examiner allowed claims 1-7 and 14-21.

Furthermore, Applicants have amended independent claim 8 to recite the limitations of claim 10, and has cancelled claim 10, thereby placing claim 8 in condition for allowance.

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### CONCLUSION

All claims in this application are in condition for allowance. Applicants respectfully request reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 09-0069. The Examiner is invited to telephone the below-signed attorney to discuss this application.

Date:

12/1/3

Imation Corp.  
1 Imation Place  
Oakdale, MN, 55128  
Tel (651) 704-3604  
Fax (651) 704-5951

By:



Name: Eric D. Levinson  
Reg. No.: 35,814